

REMARKS

Claims 1-11 are all the claims pending in the application, with claim 1 being the only independent claim. Applicant has presented a current claim listing for the convenience of the Examiner. No amendments to the claims are currently submitted.

As a preliminary matter, Applicant notes that the Office Action did not indicate whether or not the originally filed drawings have been accepted. Applicant respectfully requests such an indication on the next communication from the USPTO on this application.

Applicant notes with appreciation the Examiner's acknowledgement of Applicant's claim for foreign priority, and that the certified copies of the priority documents have been received.

Claim 1 is objected to because of an informality set forth on page 2 of the Office Action. More specifically, the Action suggested rewriting the preamble of this claim to include an intended use or application for the claimed VSB reception system. Applicant respectfully submits that such an amendment is not necessary, and that the claim as originally presented is sufficiently clear and definite. Claim 1 is directed toward a VSB reception system which clearly recites several elements; namely, a demodulating part, a frequency domain equalizing part, and a noise removing part. Applicant is unaware of any requirement that indicates that a system claim, such as that recited in claim 1, must include an intended use. For these reasons, Applicant respectfully declines the offer to rewrite the preamble of claim 1 and requests withdrawal of the stated objection to this claim.

Claims 1-7 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the background of the present application ("the Background") in view of Sweitzer et al. (U.S. Pub. 2002/0072879). Claim 8 stands rejected under 35 U.S.C. §103(a) as being unpatentable over the Background in view of Sweitzer, and further in view of Limberg (U.S. Pub. 2001/0033341).

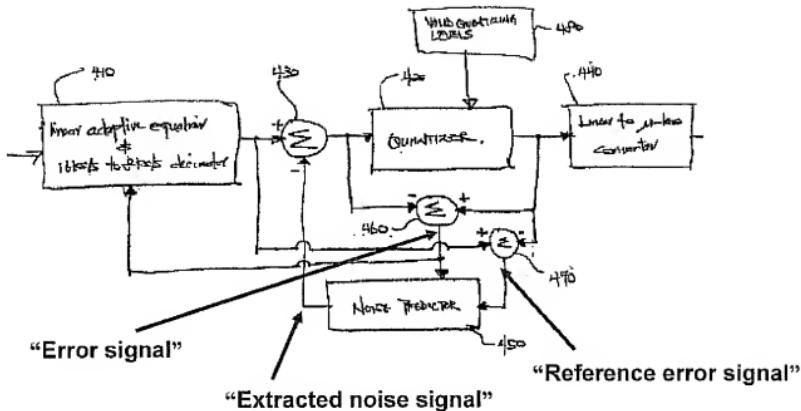
Claims 9 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Background in view of Sweitzer and further in view of the Widrow et al. publication. Applicant respectfully traverses these rejections, and requests reconsideration and allowance of the pending claims in view of the following arguments.

Rejection under 35 U.S.C. §103(a)
as being unpatentable over the Background and Sweitzer

Claims 1-7 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Background in view of Sweitzer.

Claim 1 is directed toward a VSB reception system and requires a noise removing part for “(c) calculating an error signal that is a difference between the reference error signal and the extracted noise signal.” Page 3 of the Action indicated that this claim element is taught by summing unit 460 of Sweitzer. Applicant respectfully disagrees.

Provided below is Fig. 4 of Sweitzer, which has been annotated in accordance with the position set forth in the Action. The Action implies that the output of summing unit 460 provides a difference between the output of summing unit 470 and the output of noise predictor 450. As annotated Fig. 4 clearly demonstrates, it is impossible for unit 470 to function in the manner alleged.



Summing unit 460 is not in communication with required components

First of all, referring to the above Fig. 4, Applicant assumes *arguendo* that noise predictor 450 provides the claimed “extracted noise signal” and summing unit 470 provides the claimed “reference error signal.” Even if this were true, summing unit 460 cannot calculate the claimed “error signal” that is a difference between the reference error signal and the extracted noise signal for the simple reason that summing unit 460 never receives input from either noise predictor 450 or summing unit 470.

Summing unit 460 never receives the required signals

Examining this point further, annotated Fig. 4 shows that summing unit 470 does not provide a “reference error signal” to summing unit 460, and that noise predictor 450 does not provide an “extracted noise signal” to summing unit 460. Fig. 4 is unambiguous on this point. Since summing unit 460 never receives the reference error signal or the extracted noise signal, it is therefore impossible for this unit to calculate “an error signal that is a difference between the reference error signal and the extracted noise signal,” as recited by claim 1. A device cannot calculate the difference between two signals which are never received by the device, and thus, summing unit 460 cannot calculate the claimed “error signal.”

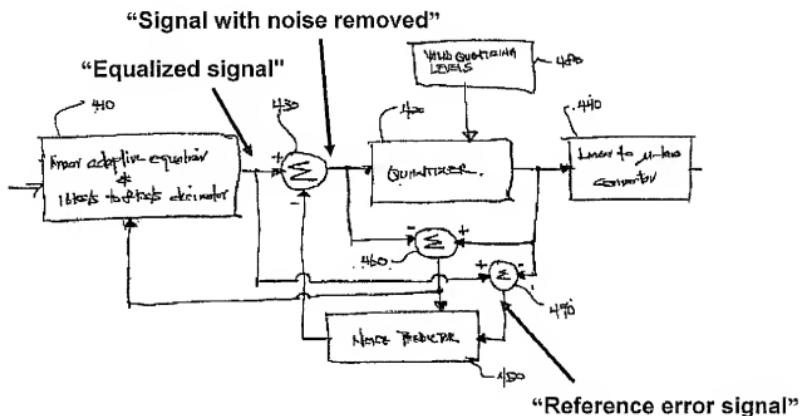
Summing unit 460 provides a “quantizer error signal”

To further emphasize Applicant’s position, it is noted that annotated Fig. 4 depicts summing unit 460 as receiving input from summing circuit 430 and quantizer 420. The function of summing unit 460 is to determine the error signal between the input and output of quantizer 420. This so-called “quantizer error signal” is then used to, among other things, update the signal output of the linear adaptive equalizer 410. This functionality of summing unit 460 is set out in Sweitzer at para. [0072]. Outputs from summing unit 430 and quantizer 420 (which are both provided to summing unit 460) are neither a “reference error signal” nor an “extracted noise signal.” Accordingly, summing unit 460 cannot therefore calculate “an error signal that is a difference between the reference error signal and the extracted noise signal.”

Summing unit 470 does not calculate a reference error signal

Yet another distinction between claim 1 and Sweitzer relates to the claimed “(b) calculating a reference error signal that is a difference between the equalized signal and the signal having the noise removed therefrom.” Page 3 of the Action indicated that this claim element is taught by summing unit 470 of Sweitzer. Applicant respectfully disagrees.

Provided below is another annotation of Fig. 4 of Sweitzer, which has been illustrated in accordance with the position set forth in the Action with the above-identified claim element. The Action indicated that the output of summing unit 470 represents a difference between equalized signal and the signal with the noise removed. This is clearly not the case.



Applicant assumes *arguendo* that the output from equalizer 410 provides an “equalized signal” and that output from summing unit 430 is a signal with the noise removed. Even if it were possible that these components provide such functionality, summing unit 470 never

receives as input the signal with the noise removed (i.e., the output from summing unit 430). To the contrary, input to summing unit 470 is from equalizer 410 and quantizer 420, not from equalizer 410 and summing unit 430.

In view of the foregoing, Sweitzer fails to teach or suggest at least two features recited in claim 1. The cited Background does not supply any of the deficiencies of Sweitzer.

Accordingly, even if one skilled in the art were to combine the teachings of the asserted references in the manner alleged, claim 1 would be patentable since all claim elements are not taught or reasonably suggested. Dependent claims 2-7 and 11 are also believed patentable at least by virtue of their dependence on the patentable independent claim 1.

Rejections Under 35 U.S.C. §103(a)

Claims 8-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Background in view of Sweitzer, and further in view of other references referred to in the Office Action. Applicant has demonstrated above that neither the Background nor Sweitzer teach or suggest various features recited in claim 1. Applicant further submits that none of the additionally recited references supply any of the deficiencies of the cited portions of the Background and Sweitzer. Therefore, for the reasons presented above, even if one skilled in the art were to combine the teachings of the asserted references, dependent claims 8-10 would be patentable at least by virtue of their dependency upon patentable independent claim 1.

Lastly, Applicant acknowledges the other references made of record and not relied upon. However, there is nothing of sufficient relevance to require detailed discussion.

CONCLUSION

In light of the above remarks, Applicant submits that the present Response places all claims of the present application in condition for allowance. Reconsideration of the application is requested.

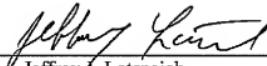
If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California, telephone number (213) 623-2221 to discuss the steps necessary for placing the application in condition for allowance.

Respectfully submitted,

Lee, Hong, Degerman, Kang & Schmadeka

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Customer No. 035884

By: 
Jeffrey L. Lotspeich
Registration No. 45,737
Attorney for Applicant